Great variations in shape and size also occur among the Purkinje cells. Their extreme paucity in the hemispheres and more nearly normal relations in the vermis are also a point of importance.

All other structures at higher levels, cerebral cortex, optic thalami, red nucleus; and at lower levels, medulla, inferior olives, spinal cord, were apparently normal in every respect. The dentate nuclei were also normal.

In Russell's cat with defective cerebellum, a review of which was given in the last number of this JOURNAL, the hemisphere and dentate nucleus of one side were defective, especially the dentate neucleus, which was represented by only a few scattering cells. The inferior olivary body of the opposite side was absent as well. This difference would indicate, as Russell remarks, with almost the definiteness of an experimental extirpation, that the cells of Purkinje in the cerebellar cortex had little relation with the olivary body, while the dentate nucleus is closely associated with it. As pointing to the functions of the cerebellar cortex itself, therefore, without complications with centres at lower or higher levels, this case gives the best evidence that we have at present. C. F. H.

Studies on the Lesions Produced by the Action of Certain Poisons on the Cortical Nerve Cell.—I. Alcohol. HENRY J. BERKLEY. Brain, LXXII, 473-96, 17 Figs.

The animals used were rabbits, to which pure alcohol had been given for a considerable time, generally several months. These were compared with similar preparations from normal animals. The chief results are confirmatory of the findings of Andriezen. The blood vessels are found somewhat altered, the smallest arteries being "irregularly shrunken, at intervals almost botryoidal in appearance." This is not a constant phenomenon. The nerve cells, about one in three, are decreased in size, the nuclei appear a little irregular and shrunken, and the nucleolus especially, instead of being spherical and sharply defined, is much enlarged and very irregular in outline. By a modification of the Golgi method applicable to material already hardened in Müller's fluid, an alteration of the dendritic processes of the cortical cells in the cerebrum and cerebellum (Purkinje cells) is made out, resembling those described by Andriezen. The "contact gemmules" are lost and the processes become irregularly swollen. Berkley finds no alterations of the neuron. The affection of the dendron is the most striking alteration, and it is not claimed to be characteristic for alcohol poisoning. C. F. H.

Einige Hypothesen über den anatomischen Mechanismus der Ideenbildung, der Association und der Aufmerksamkeit. S. RAMON Y CAJAL. Archiv für Anatomie und Entwickelungsgeschichte, herausgegeben von His. 1895, 4th-6th Heft.

The Spaniard of Barcelona, of such world-wide reputation, has with perfect right ventured over the line of strict anatomy into the provinces of psychology. The invasion is a welcome one. Such scientific incursions are like that of the spies into Canaan—they bring back rich and exceedingly good fruit. The first part of the discussion deals with the question, "*Has the individual perception one or several nerve cells for underlying basis?*" The recent investigations into the structure of the nervous system all demonstrate that many, very many, cells and fibres are engaged in the slightest sensation. From the sense organ to the cortex there is a well